

Appl. No.: 10/781,490
Amdt. Dated: October 1, 2004
Reply to Office Action of July 19, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A ceramic capacitor comprising a ceramic dielectric body and at least two spaced-apart electrodes in contact with said body wherein at least 80 weight percent of said body consists of alumina, said body further comprising at least 0.5 BaTiO₃ w/w%, at least 0.5 w/w% MgO, less than \leq 0.05 w/w% SiO₂, at least 4.5 w/w% ZrO₂ and at least 0.07 w/w% HfO₂.

Claim 2 (original): A capacitor according to claim 1 comprising between 0.5 and 15 w/w% BaTiO₃.

Claim 3 (currently amended): A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises between about 80-92 w/w% Al₂O₃, about 0.5 and 15 w/w% BaTiO₃, about 0.5-1.0 w/w% MgO, about less than \leq 0.05-1.0 w/w% SiO₂, about 4.5-7.5 w/w% ZrO₂ and about 0.07-0.13 w/w% HfO₂ and wherein the sum of the components does not exceed 100%.

Claim 4 (original): A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises up to 15 w/w% BaTiO₃, up to 1.0 w/w% MgO, up to 92 w/w% Al₂O₃, up to 1 w/w% SiO₂, up to 7.5 w/w% ZrO₂ and up to 0.125 w/w% HfO₂.

Claim 5 (currently amended): A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises about 90.5 w/w% Al₂O₃, 2.5 w/w% BaTiO₃, less than \leq 0.05 w/w% SiO₂, 6 w/w% ZrO₂, 0.6 w/w% MgO and 0.1 w/w% HfO₂.

Claim 6 (original): A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises about 87 w/w% Al₂O₃, 6 w/w% BaTiO₃ \leq 0.05 w/w% SiO₂, 6 w/w% ZrO₂, 0.6 w/w% MgO and 0.1 w/w% HfO₂.

Claim 7 (original): A ceramic capacitor according to claim 1 wherein said ceramic dielectric body has a dielectric constant of at least 23.

WHAT IS CLAIMED IS:

1. A ceramic capacitor comprising a ceramic dielectric body and at least two spaced-apart electrodes in contact with said body wherein at least 80 weight percent of said body consists of alumina, said body further comprising at least 0.5 BaTiO₃ w/w%, at least 0.5 w/w% MgO, less than [\leq] 0.05 w/w% SiO₂, at least 4.5 w/w% ZrO₂ and at least 0.07 w/w% HfO₂.
2. A capacitor according to claim 1 comprising between 0.5 and 15 w/w% BaTiO₃.
3. A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises between about 80-92 w/w% Al₂O₃, about 0.5 and 15 w/w% BaTiO₃, about 0.5-1.0 w/w% MgO, about less than [\leq] 0.05-1.0 w/w% SiO₂, about 4.5-7.5 w/w% ZrO₂ and about 0.07-0.13 w/w% HfO₂ and wherein the sum of the components does not exceed 100%.
4. A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises up to 15 w/w% BaTiO₃, up to 1.0 w/w% MgO, up to 92 w/w% Al₂O₃, up to 1 w/w% SiO₂, up to 7.5 w/w% ZrO₂ and up to 0.125 w/w% HfO₂.
5. A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises about 90.5 w/w% Al₂O₃, 2.5 w/w% BaTiO₃, less than [\leq] 0.05 w/w% SiO₂, 6 w/w% ZrO₂, 0.6 w/w% MgO and 0.1 w/w% HfO₂.
6. A ceramic capacitor according to claim 1 wherein said ceramic dielectric body comprises about 87 w/w% Al₂O₃, 6 w/w% BaTiO₃, \leq 0.05 w/w% SiO₂, 6 w/w% ZrO₂, 0.6 w/w% MgO and 0.1 w/w% HfO₂.
7. A ceramic capacitor according to claim 1 wherein said ceramic dielectric body has a dielectric constant of at least 23.